NORTH AMERICAN STENODYNERUS OF THE ANORMIS GROUP (VESPIDAE, HYMENOPTERA).

By Richard M. Bohart, University of California, Los Angeles, Calif.

Stenodynerus anormis (Say) and related species are fairly slender wasps of moderate size, possessing the two pits on the front face of the pronotum which are characteristic of the genus *Stenodynerus* and having no acarinarium under the relatively short first abdominal tergite. They are particularly distinguished by having the apex of the clypeus essentially straight or convex in both sexes.

Holotypes and allotypes of the new species and subspecies described herein have been deposited in the collection of the California Academy of Sciences. The disposition of the paratypes is indicated in the text.

Key to the North American Stenodynerus of the Anormis Group.

Without an acarinarium under the short first abdominal tergite; second tergite basally cribrose under the apical margin of the first; apex of clypeus essentially straight or convex in both sexes.

1. Postscutellum strongly raised in the form of a rough bilobed crest; apex of clypeus very narrow and often convex; interocellar area raised over each ocellus eyelid-like, particularly in males; projecting postero-lateral angle of mesonotum three times as broad as an ocellus ..... *percampanulatus*

   Postscutellum low, hardly raised above scutellum; interocellar area not swollen; projecting postero-lateral angle of mesonotum hardly broader than an ocellus 2

2. Male middle femur strongly compressed apically so that the apical half is concave above; apex of female clypeus slightly convex and about as wide as length of fourth antennal segment ..... *anormis*

   Male middle femur depressed baso-ventrally but normally convex on apical half above; apex of female clypeus truncate and at least as wide as length of third antennal segment 3

3. Summit of first tergite with a weak but distinct transverse carina 4

   Summit of first tergite without a transverse carina 5

4. Markings chiefly yellow ..... *clypeolatus clypeolatus*

   Markings chiefly reddish ..... *clypeolatus floridanus*

5. Projecting postero-lateral angle of mesonotum relatively short and smoothly rounded apically, especially in females; terminal antennal segment of male mostly light-colored; apical middle of second sternite with a low and smoothly rounded hump 6

   Projecting postero-lateral angle of mesonotum relatively long and slender, almost pointed apically; terminal segment of male antenna entirely black; apical middle of second sternite in male with a sharply rounded ridge 7

6. Markings whitish in both sexes
   blandoides blandoides n. sp. & subsp.

   Markings yellowish in both sexes
   blandoides owensi n. sp. & subsp.

7. Markings of female yellow, those of male whitish
   blandus blandus

   Markings of female yellow, those of male yellow, at least partly
   blandus **catalinae** n. subsp.

Stenodynerus percampanulatus (Viereck)

Odynerus percampanulatus Viereck, 1906. Tr. Am. Ent. Soc. 32: 200 (holotype U.K.).

Odynerus blawus Rohwer, 1915. Proc. U. S. Nat. Mus. 49: 240.

Odynerus odontoschius Rohwer, 1915. Proc. U. S. Nat. Mus. 49: 241.

Odynerus odontoschius dichrous Rohwer, 1915. Proc. U. S. Nat. Mus. 49: 241.

Distribution: Hamilton Co., Kansas (F. H. Snow) (type locality); Ainsworth, Oklahoma: Albuquerque, New Mexico (J. P. Watson); Las Cruces, New Mexico (T. D. A. Cockerell); Kayenta, Arizona (H. N. Hultgren); Claremont, California; Cajon Canyon, California (E. G. Rinsley); Benton, California (E. G. Anderson); Antioch, California (G. E. Bohart); Gardena, Washington (V. N. Arge).

There is a pronounced color range in this species from predominantly black and yellow to black, red, and yellow to predominantly red and yellow. The names given by Rohwer—*blawus, odontoschius,* and *dichrous* all pertain to the typical red and yellow variety. At present the designation of subspecies on the basis of color does not seem warranted in this species.

Stenodynerus anormis (Say)

Eumenes anormis Say, 1824. Keatings Narrat. Exped. II App., p. 346.
Odynerus oculatus Say, 1837. Boston Jour. Nat. Hist. 1: 385.
Odynerus abnormis Say, 1837. Boston Jour. Nat. Hist. 1: 387.
Odynerus persecutor Saussure, 1855. Et. Fam. Vespidae 3: 133.
Rhynchium anorme Saussure, 1855. Et. Fam. Vespidae 3: 184.
Odynerus philetas Cameron, 1908. Tr. Am. Ent. Soc. 34: 214, 218.
Odynerus approximatus Cameron, 1909. Pomona Jour. Ent. 1: 79, 128.

The holotype has been destroyed. For this reason a neotype male and a neallotype female are hereby designated and placed in the California Academy of Sciences. Neotype male, Delta, Colorado, June 25, 1938 (R. Bauer); neallotype female, Longmont, Colorado, Sept. 9, 1938 (U. Lanham).

Distribution: North America. States from which I have seen specimens are New York. New Jersey, Virginia, North Carolina, South Carolina, Michigan, Iowa, Illinois, Missouri, Texas, Arkansas, Kansas, Nebraska, New Mexico, Arizona, Colorado, Utah, Wyoming, Washington, Oregon, and California.

Stenodynerus clypeolatus (Dalla Torre)

Odynerus clypeatus Robertson, 1901. Tr. Am. Ent. Soc. 27: 199 (nec Saussure, 1852) (cotypes, U.S.N.M. and A.N.S.P.)
Odynerus clypeolatus Dalla Torre, 1904. Genera Insectorum 19: 42.
Odynerus bradleyi Robertson, 1926. Psyche 33: 126 (nec Cameron, 1909).
Ancistrocerus clypeatus Bequaert, 1925. Tr. Am. Ent. Soc. 51: 82.

Distribution: I have seen specimens from New York, New Jersey, Maryland, Virginia, Louisiana, Texas, Indiana, Illinois (type locality Carlinville), and Minnesota.

This species is related to *anormis* which it resembles closely. Careful examination of the characters given in the key is necessary to separate the two species.

Stenodynerus clypeolatus floridanus Robertson

Odynerus floridanus Robertson, 1901. Tr. Am. Ent. Soc. 27: 200 (cotype, A.N.S.R.)

Ancistrocerus floridanus Bequaert 1925. Tr. Am. Ent. Soc. 51: 82.

DISTRIBUTION: Florida: Vero Beach (W. Benedict), Punta Rassa (J. C. Bradley), Inverness (C. Robertson, type locality).

Stenodynerus blandoides Bohart, n. sp.

Male. Black, marked with whitish as follows: Mandible, clypeus, basal antennal segment in front, interantennal spot, orbital line, postocular spot, a pair of pronotal spots, tegula mostly, spot beneath, postscutellum mostly, coxae and femora partly, tibiae mostly, lateral spot on first and second tergite, apical margins of first six tergites and second to fifth sternites (those on 4 and 5 broken). Antenna, mandible, and tarsi becoming reddish apically, hook of antenna pale reddish, wing veins reddish to brown. Body moderately punctured, clypeus fairly sparsely and strigosely punctured. Last antennal segment flattened, broadly rounded apically, fitting into a groove. Clypeus very slightly concave apically, longer than broad. Humeral angles not prominent, slightly obtuse, middle femur slightly depressed baso-ventrally, parategular projection of mesonotum whitish and smoothly rounded apically. Second tergite not reflexed apically, second sternite slightly wavy, with three low humps. Aedeagus very slender along apical third, free part of paramere subquadrate and covered with moderately long hairs. Length to apex of second tergite 6 mm.

Female. Markings as in male with following exceptions: Antennal flagellum dark, mandible whitish at base only, clypeus black-margined and with a central black spot, mesonotum and propodeal angles white-spotted, coxae dark, sternites 3 and 4 with lateral spots only, 5 entirely dark. Clypeus apically truncate, longer than broad. vertex pit distinct, slightly larger than an ocellus. Length to apex of second tergite 6.5 mm.

Holotype male and allotype female, Davis Creek, Modoc Co., Calif., July, 1922 (C. L. Fox). Paratypes, California: 2 females, Tahoe (E. C. Van Duzee, F. X. Williams); 2 males, Modoc Co. (C. L. Fox). Oregon: 1 male and 5 females, Steens Mts. (Bolinger-Jewett); 3 pair, Crater Lake Park (H. A. Scullen); 1 pair, Elgin (Bolinger-Jewett); 1 pair, Hereford (H. A. Scullen); 2 males and 1 female, Baker (H. A. Scullen); 1 pair, Blitzen Valley (S. Jewett); 2 pair, Hart Mt. (Bolinger-Jewett); 1 pair, Prairie

City (H. A. Scullen). Washington: 1 pair, Pullman. Utah: 1 pair, Logan Canyon (G. F. Knowlton). Colorado: 2 males, Meeker. I have also seen specimens from Walla Walla, Washington; Paonia, Colorado; Craters of the Moon and Moscow, Idaho; and many localities in Oregon, Wyoming, and Utah. Paratypes in collections of Washington State College, Oregon State College, Utah Agricultural College, University of Colorado, U. S. National Museum, and J. Bequaert.

This species is very close to *S. blandus,* but in addition to the distinctive color characters given in the key, the male of *blandoides* has a somewhat smaller antennal hook and a smoother second sternite. In specimens from the Owens Valley, California the markings of both sexes are distinctly yellow. This subspecies is designated below. The female of this race is best separated from that of *blandus* by the broader parategular angles of the mesonotum.

Stenodynerus blandoides owensi Bohart, n. subsp.

Resembling typical *blandoides* except that the markings of both sexes are yellow.

Holotype male, Big Pine, Inyo Co., Calif., June 18, 1920 (E. P. Van Duzee). Allotype female, Big Pine Cr., Inyo Co., Calif., June 17, 1942 (R. M. Bohart). Paratypes, 2 males, same data as allotype; 1 male Big Pine, Inyo Co., Calif., June 23, 1937 (E. C. Van Dyke); 1 male, Monache Meadows, Tulare Co., Aug., 1917 (S. R. Pilate).

Stenodynerus blandus (Saussure)

Odynerus blandus Saussure, 1871. Rev. and Mag. Zoo. 22: 105.

Odynerus giffardi Rohwer, 1917. Proc. U. S. Nat. Mus. 53: 237.

Distribution: California (widespread and common); Oregon (Corvallis, Mt. Hood, Crater Lake, Colestin, Klamath L., Hood River, Oakridge, Hart Mountain); Washington (Metaline Falls, Walla Walla, Wawawai); Idaho (Moscow, Lewiston, Chatoolet, Sweet); Wyoming (Grand Teton National Park); Arizona (Baboquivari Mts.); Lower California (Ensenada).

Stenodynerus blandus catalinae Bohart, n. subsp.

Markings and structure as in typical *blandus* except that the male has the markings yellow instead of white and the second sternite in the male is more smoothly contoured.

Holotype male and allotype female, Avalon, Santa Catalina

Islands, California, Sept. 6, 1907 (C. L. Fox). Paratypes, 2 pair, Santa Catalina Islands, Calif. (T. D. A. Cockerell and W. P. Crus) ; 3 males, San Diego, California, Mar. 29, 1891 (F. E. Blaisdell). Paratypes in collections of Southern California Academy of Sciences and J. Bequaert.

Extension of Range of Crambus teterrellus (Zincken) (Pyralididae).—Sudden extensions of the range of a species are always of potentially great interest, but are all too seldom observed or, if noted, are not commented on in sufficiently public fashion. It seems worthwhile, therefore, to note the recent northward extension of *Crambus teterrellus* (Zincken). Until about 1925 this species was of decidedly uncommon or rare occurrence in New York and New England. Forbes (Lepidoptera of New York . . . 1920, p. 602) lists it as "common north to New York, rarer in Maine." His only New York record, however, both there and in the New York State List of Insects, is based on an old specimen in the Henry Edwards Collection in the American Museum. Fernald (The Crambidae of North America, 1896, p. 51) lists it from Maine, New York, Pennsylvania, Ohio and various southern States. In the Academy of Natural Sciences of Philadelphia there is a specimen from Manitoba. In the South and the Southwest it is a very abundant species, a minor pest on Blue-grass.

For the last ten years the species has been becoming more and more abundant around New York City. In 1935 and in subsequent years I found it very common in Yonkers and Mount Vernon. For the last four years it has been steadily on the increase in Connecticut. Here at my summer home in Putnam I can collect from fifty to a hundred specimens any night during August. There are ten or twelve on the window now.

This apparent northward spread of *teterrellus* should be borne in mind. Other species have been doing the same thing during the last twenty years, in the same area. An outstanding example is *Colias eurytheme* Boisd. the Alfalfa butterfly. Even the birds have been doing it ; the Turkey Buzzard has been steadily pushing its breeding range up into New York. I was shown a nest in the Catskills three years ago, and found the same site occupied this June. Very recently the abnormal abundance of the Buzzard in the Interstate Park even was commented upon in the newspapers.

I believe that a little checking up will disclose many similar cases. I should be very much interested to hear of any such.—Alexander B. Klots, College of the City of New York, New York.